

REMARKS

This is intended as a full and complete response to the Final Office Action dated January 9, 2008, having a shortened statutory period for response set to expire on April 9, 2008.

Claims 1 and 10 have been amended to more clearly recite various aspects of the invention. Claims 5 and 18-19 have been amended to remove their multiple dependencies. Applicants believe no new matter has been introduced by the amendments presented herein. The amendments have been made to put the claims in condition for allowance or in better condition for an appeal.

Claim 4 has been cancelled without prejudice. Applicants reserve the right to subsequently take up prosecution of the claims as originally filed in this application in a continuation, a continuation-in-part and/or a divisional application. Please reconsider the claims pending in the application for reasons discussed below.

Claims 5 and 19 are objected as being in improper form because they are multiple dependent claims. Claims 5 and 18-19 have been amended to remove their multiple dependencies. Withdrawal of the objection is respectfully requested.

Claims 1, 2-10 and 12-19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,894,948 ("Brittan"). The limitation "in a high frequency range" in independent claims 1 and 10 have been replaced with "at frequencies over 100 Hz" for clarity. This limitation was previously recited in claim 4, which now has been cancelled without prejudice. Therefore, Applicants believe that the amendments made to claims 1 and 10 do not raise any new issues that would necessitate further search by the Examiner. Applicants believe that placing this limitation in the claims put the claims in condition for allowance.

Brittan is generally directed to methods for attenuating noise in seismic data collected from dual-sensor ocean bottom cable surveys. Although Brittan describes a method for attenuating coherent noise, such as mud roll and spurious S waves, Brittan does not teach or disclose attenuating coherent noise at frequencies over 100 Hz. See column 3, lines 21-26. In contrast, Brittan proposes attenuating noise at frequencies less than 20 Hz. Brittan, column 8, lines 8-15. As the present application explains,

“[f]requencies that allow seismic imaging of strata less than 20 m thick are generally considered to be ‘high frequencies’ and, for a survey location with a typical average seismic wave velocity of 2000 m/s from surface to target, frequencies above 100 Hz will provide this resolution and are accordingly classified as ‘high frequencies’. US Publication 2006/0291329, paragraph [0075]. Accordingly, claims 1 and 10 are patentable over Brittan. Claims 3, 5-9 and 12-19 are also patentable over Brittan since they depend from claims 1 and 10, respectively. Claims 2, 4 and 11 have been cancelled without prejudice, thereby rendering the rejection moot with respect to these claims.

Brittan also fails to teach or disclose wherein the seismic source is disposed at or on the earth’s surface and the receiver is disposed within a borehole, as recited in claims 7 and 14; and wherein the seismic source is disposed in a water column and the receiver is disposed within a borehole, as recited in claims 9 and 15. Accordingly, these distinctions provide another reason why claims 7, 9 and 14-15 are patentable over Brittan.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the claimed invention. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

The prior art made of record is noted. However, it is believed that the secondary references are no more pertinent to the Applicants’ disclosure than the primary references cited in the office action. Therefore, it is believed that a detailed discussion of the secondary references is not deemed necessary for a full and complete response to this office action.

Respectfully submitted,

/Ari Pramudji/ March 10, 2008

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